USGS science for a changing world

Earthquake Shaking Green Alert

GSN USAID FROM THE AMERICAN PEOPLE ANSS

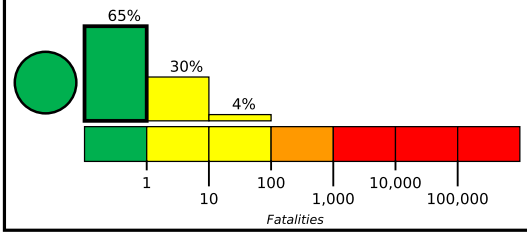
M 5.8, 85 km E of Yokohama, Japan

Origin Time: 2023-11-19 21:01:30 UTC (Mon 06:01:30 local)
Location: 41.2104° N 142.2519° E Depth: 41.0 km

PAGER Version 5

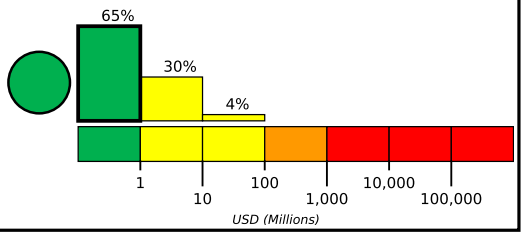
Created: 1 day, 0 hours after earthquake

Estimated Fatalities



Green alert for shaking-related fatalities and economic losses. There is a low likelihood of casualties and damage.

Estimated Economic Losses

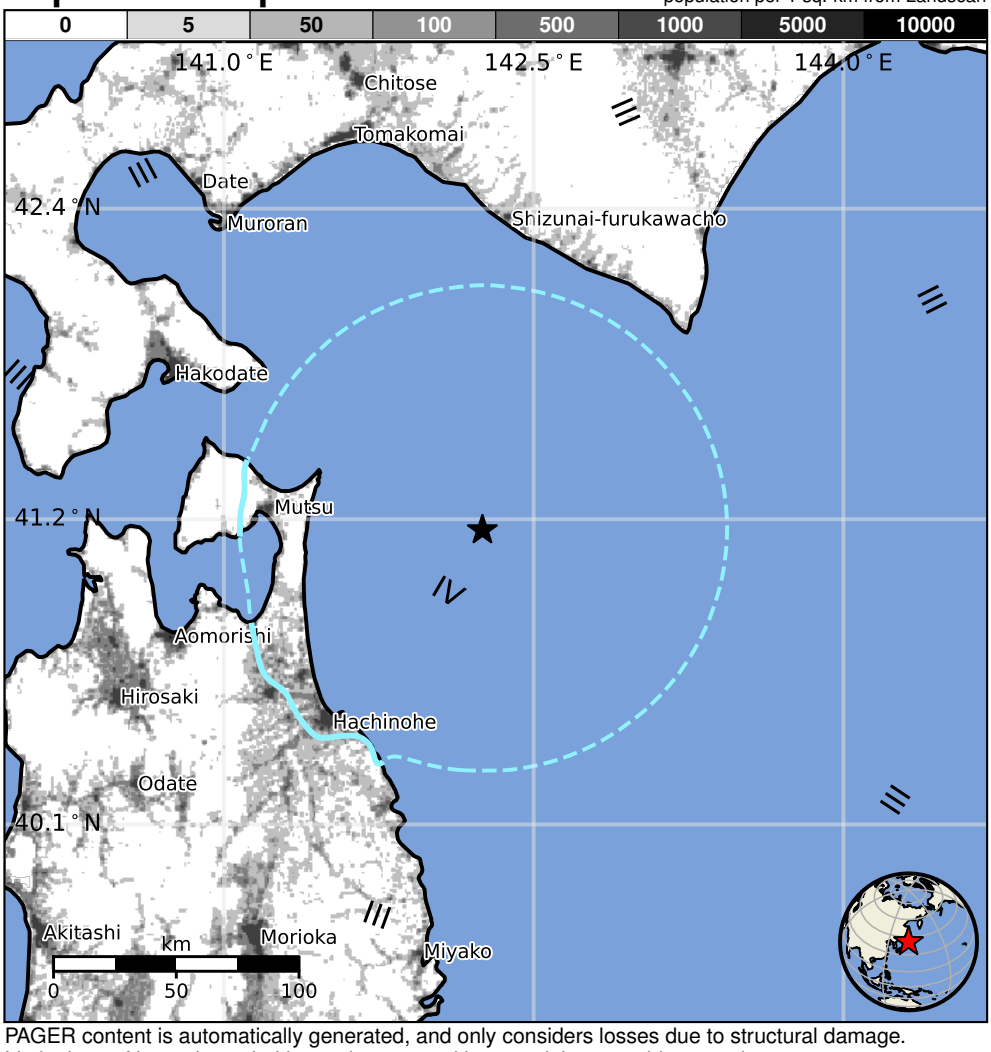


Estimated Population Exposed to Earthquake Shaking

ESTIMATED POPULATION EXPOSURE (k=x1000)		–*	3,988k*	530k	0	0	0	0	0	0
ESTIMATED MODIFIED MERCALLI INTENSITY		I	II-III	IV	V	VI	VII	VIII	IX	X+
PERCEIVED SHAKING		Not felt	Weak	Light	Moderate	Strong	Very Strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	Resistant Structures	None	None	None	V. Light	Light	Moderate	Mod./Heavy	Heavy	V. Heavy
	Vulnerable Structures	None	None	None	Light	Moderate	Mod./Heavy	Heavy	V. Heavy	V. Heavy

*Estimated exposure only includes population within the map area.

Population Exposure



Structures

Overall, the population in this region resides in structures that are resistant to earthquake shaking, though vulnerable structures exist. The predominant vulnerable building types are heavy wood frame and reinforced/confined masonry construction.

Historical Earthquakes

Date (UTC)	Dist. (km)	Mag.	Max MMI(#)	Shaking Deaths
1994-12-28	124	7.7	VII(130k)	3
1983-05-26	278	7.7	VII(174k)	104
1993-07-12	311	7.7	VIII(4k)	200

Recent earthquakes in this area have caused secondary hazards such as landslides and fires that might have contributed to losses.

Selected City Exposure

from GeoNames.org

MMI	City	Population
IV	**Mutsu**	**49k**
IV	Misawa	43k
IV	Uchimaru	<1k
IV	**Hachinohe**	**239k**
IV	Inuotose	<1k
IV	Furudate	<1k
III	**Aomorishi**	**298k**
III	**Hakodate**	**276k**
III	**Morioka**	**295k**
III	Akita	326k
III	Akita	320k

bold cities appear on map. (k=x1000)

https://earthquake.usgs.gov/earthquakes/eventpage/us6000lphm#pager

Event ID: us6000lphm